Notice of Allowability	Application No.	Applicant(s)	
	10/050,279	FANDL ET AL.	
	Examiner	Art Unit	
	Daniel M Sullivan	1636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the Paper filed 19 November 2004*.

2. ☒ The allowed claim(s) is/are *88-134*.

3. ☒ The drawings filed on *16 January 2002* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 11/15/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *1/31/05* .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

This Office Action is a reply to the Paper filed 19 November 2004 in response to the Non-Final Office Action mailed 18 May 2004. Claims 2, 4, 6, 8, 47, 49, 51, 68 and 70 were withdrawn from consideration and claims 1, 3, 5, 7, 9-20, 23, 45, 46, 48, 50, 52-63, 66, 67, 69, 71-84 and 87 were considered in the 18 May Office Action. Claims 1-20, 23, 45-63, 66-84 and 87 were canceled and claims 88-137 were added in the 19 November Paper.

Election/Restrictions

Newly submitted claims 135-137 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

The previously examined claims are directed to a method of detecting and/or isolating a eukaryotic cell that produces a secreted protein of interest wherein the method comprises the step of transfecting a cell with a nucleic acid encoding either a cell surface capture molecule, a secreted protein of interest or both. The method of newly filed claims 135-137 is not limited to comprising a step wherein a nucleic acid encoding either a cell surface capture molecule or a secreted protein of interest is transfected into a cell, and therefore encompasses subject matter not embraced by the previously examine claims. Furthermore, the method of claims 135-137 requires that an antibody-producing cell be fused with an immortalized cell expressing a cell surface capture molecule, which process step is not comprised in the previously examined claims. Thus, the examined claims and the method of claims 135-137 embrace mutually non-overlapping subject matter and are therefore patentably distinct.

Furthermore, given this non-overlapping subject matter, examination of claims 135-137 with claims 88-134 would require a separate search for each group to determine that the full scope of the claims is free of the art, which would impose a serious burden on the Office.

This restriction requirement was discussed with Applicant's representative in a telephone interview on 31 January 2005. Applicant agreed to cancel claims 135-137 without prejudice to their renewal in a subsequently filed application.

In the restriction requirement mailed 28 January 2003, Applicant was required to elect a single embodiment of the protein of interest and cell surface capture molecule to be examined with the broad claims. As the generic claims have been found allowable, the restriction among the linked inventions is hereby WITHDRAWN.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Valeta Gregg on 31 January 31, 2005.

In the claims:

Cancel claims 135-137.

Replace claims 89, 93-96, 98, 102, 105, 114, 121 and 122 with the following amended claims.

89. (Presently amended) The method of claim 88, wherein the providing step ~~comprising~~ comprises transfecting the nucleic acid encoding the secreted POI and the nucleic acid encoding the cell surface capture molecule into the cell.

93. (Presently amended) The method claim 92, wherein the cells of the population express different levels of the POI, and the isolating step isolates cells based on relative expression level of the POI.

94. (Presently amended) The method of claim 92, wherein the cells of the population express different POIs.

95. (Presently amended) The method of claim 92, further comprising contacting the cells of the population with a blocking molecule that binds the cell surface capture molecule or the POI to block the diffusion of secreted POI between cells.

96. (Presently amended) The method of claim 89, wherein the nucleic acid encoding the secreted POI is transfected into the cell before the nucleic acid encoding the cell surface capture protein and the step (a) is performed before step (b).

98. (Presently amended) The method of claim 89, wherein the nucleic acid encoding the cell surface capture protein and the nucleic acid encoding the secreted POI[[.]] are transfected into the cell simultaneously.

102. (Presently amended) The method of claim 99, wherein when the POI is a ligand, the cell surface capture molecule is a receptor for the ligand; when the POI is a receptor, the cell surface capture molecule is the ligand for that receptor; when the POI is a protein or peptide, the cell surface capture molecule is an antibody specific to the POI; or when the POI is an antibody, the cell surface capture molecule is an antibody-binding protein.

105. (Presently amended) The method of claim 88, wherein the capture molecule is a protein ~~capabl~~ capable of binding the POI, and ~~having~~ has a signal sequence and membrane anchor such that the protein remains anchored in a membrane of the cell, exposed to the outside of the cell, and functions as the cell surface capture molecule.

114. (Presently amended) The method of claim 113, wherein when the POI is a ligand, the cell surface capture molecule is a receptor for the ligand; when the POI is a soluble receptor, the cell surface capture molecule is the ligand for that receptor; when the POI is a growth factor, the cell surface capture molecule is a protein capable of binding the growth factor; or when the POI is an antibody, the cell surface capture molecule is an antibody-binding protein.

121. (Presently amended) The method of claim ~~1120~~120, wherein the B-cell derivative is a plasma cell, a hybridoma, a myeloma, or a recombinant cell.

122. (Presently amended) A method of detecting and isolating a eukaryotic cell that produces a secreted protein of interest (POI), comprising:

(a) transfecting a cell with a nucleic acid molecule that encodes a secreted POI comprising an Fc domain;

(b) transfecting the cell with a nucleic acid molecule that encodes a cell surface capture molecule capable of binding an Fc domain;

(c) culturing the cell under conditions in which a POI-cell surface capture molecule complex is expressed on the cell surface;

(d) contacting the cell with a detection molecule capable of binding the POI, wherein the surface-displayed POI is detected;

~~(d)~~(e) isolating the detected cell.

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance:

Objection to and rejection of claims 1, 3, 5, 7, 9-20, 23, 45, 46, 48, 50, 52-63, 66, 67, 69, 71-84 and 87is rendered moot by cancellation thereof.

The rejection under 35 USC §112, first paragraph, is not applied to the allowed claims in view of the showings of the declaration under 37 CFR §1.132, the limitation of the claims to

practicing the method in eukaryotic cells, and Applicant's persuasive arguments in the 19 November Paper.

Claims 88-134 are free of the art of record. The closest art, exemplified by Miltenyi *et al.* WO 99/58977 and Miltenyi *et al.* WO 94/09117, teaches a method of isolating cells that produce a secreted protein of interest based on binding of the protein of interest to a capture molecule coupled to the surface of the cell. However, the art teaches that the cell surface capture molecule should be coupled to the cell by means of chemical modification of the cell surface rather than expression of the capture molecule in the cell. As the instant claims require that the POI-capture molecule complex be formed intracellularly or require that both the POI and the capture molecule be transfected into the cell, the method disclosed in the art wherein the POI-capture molecule complex would be formed extracellularly does not comprise all of the elements of the claims. Further, the art of record viewed as a whole, does not suggest modifying the method disclosed in the Miltenyi *et al.* publications such that the capture molecule is expressed in the cell rather than bound to the membrane by chemical modification such that the POI-capture molecule complex would be formed intracellularly.

Conclusion

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel M Sullivan whose telephone number is 571-272-0779. The examiner can normally be reached on Monday through Thursday 6:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Remy Yucel, Ph.D. can be reached on 571-272-0781. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel M. Sullivan, Ph.D.
Examiner
Art Unit 1636

DAVID GUZO
PRIMARY EXAMINER